single describer (Professor Haeckel), the number is greater by 70 in the present one. "These 1015 are divided as follows: Mammalia, 29; Aves, 19; Reptilia and Batrachia, 34; Pisces, 23; Mollusca and Molluscoida, 67; Crustacea, 46; Arachnida, 64; Myriopoda, 5; Insecta, 598; Vermes, 32; Echinodermata, 30; Cœlenterata, 27; Spongiida, 17; and Protozoa, 24. The unavoidable delay referred to in the preface has necessitated the publication of this long list of new names with scarcely any examination as regards prior occupation."

A number of changes have taken place in the staff of assistant editors, but we do not see that the quality of the reports has been lessened in value.

As regards Mammalia, the year 1882 did not differ materially from its predecessor in the large number of papers, anatomical, systematic and faunal, which appeared, though but few separate works of importance were published.

Of the ornithological publications of the year, special attention is called by the assistant editor, Mr. Sharpe, to the completion of Elliott's "Monograph of the Hornbills," Sclater's "Jacamars and Puff-birds," Salvadori's "Uccelli di Papuasia," and the atlas to the part "Aves" of the great work on the natural history of Madagascar, by MM. Milne-Edwards and Grandidier. Attention is also called to the valuable essays by Drs. Gadow and Krukenberg on the coloring of feathers. As usual the reports on insects fill nearly half the volume, *i. e.*, 292 pages.

As regards the value of this work to working naturalists, in this country especially, where few have access to large libraries, we can only repeat the statements heretofore made as to the usefulness of such a record as this. The report is subsidized, and, as a matter of course, endorsed by the British Association for the advancement of Science, as well as the Royal Society of London.

COLLINS'S MINERALOGY[1].—The system of classification adopted by the author is identical with that of Dana so far as the primary classes are concerned. The book is reprinted from the English edition, and like the first volume, published in 1878, was prepared for the use of "practical working miners, quarrymen and field geologists," as well as "students of the science classes in connection with the Department of Science and Art." The work, as the author says, is little more than a dictionary of minerals, which includes notices of all described up to the beginning of 1881.

The criticism we would make on this little unpretentious book, is that the class for which it is intended need full descriptions of the more common minerals and ores, their mode of occurrence and relations to one another, rather than a simple list with too brief descriptions of or reference to all that are known.

[1] *Putnam's Advanced Science Series. Mineralogy.* By J. H. COLLINS. Vol. II. Systematic and descriptive Mineralogy, with upwards of 400 illustrations. [1884.] 12mo., pp. 328.

We still need a brief class-book of mineralogy for college students and beginners, one which shall lead the student to carefully examine at least the physical characters of not over, say a hundred, of our rock-making and other more important minerals, such as are constantly met with by amateurs, miners and prospectors. Such a book should also enter fully into the methods of study for the examination of minerals by their physical characters, comprising a set of object-lessons which may be made of much value and interest to college and other classes.

THIRD REPORT OF THE U. S. ENTOMOLOGICAL COMMISSION.—This report forms a volume of 550 pages, with an appendix of nearly 100 pages, and is illustrated by sixty-four plates. It is divided into three parts. Part I, in reference to the Rocky Mountain locust, has five chapters. Chapter 1 comprises additions to the chronology of locust ravages in 1880 and 1881. Chapters 2, 3 and 4, by Mr. Lawrence Bruner, contain his reports and notes on the locust and cricket (Anabrus), giving the results of the expeditions made by him under direction of the Commission, into Northern Montana and British America, Chapter 5 is an essay on "the data obtained from solar physics and earthquake commotions applied to elucidate locust multiplication and migration," by A. H. Swinton, of England, communicated by him and published by the Commission without its endorsing all the author's views.

Part II comprises chapters 6–8, the 6th on the army worm; the 7th on the canker worm, each by C. V. Riley, and the 8th on the Hessian fly, by A. S. Packard, Jr., being a reprint, with additions and other changes, of Bulletin 4 of the Commission. Part III, Scientific results, comprise four chapters, each by A. S. Packard, Jr.; the 9th containing descriptions of certain larvæ of injurious forest insects, illustrated with numerous drawings by Dr. C. F. Gissler, and filling ten plates. Chapter 10 discusses in a fragmentary way certain points in the embryology of the *Caloptenus spretus* and *C. atlanis;* it contains some speculations as to the origin of the wings, and the genealogy of the insects. It closes with a brief account of some points in the development of the bark-boring beetle *Hylurgops pinifex* and *Xyleborus coelatus*, with remarks on the number of segments in the head of winged insects.

Chapter 11 is devoted to an essay on the systematic position of the Orthoptera in relation to other orders of insects, portions of which have appeared in the NATURALIST. This chapter is illustrated with forty-two plates, giving in a comparative way the leading points in the external anatomy of the Orthoptera, Dermatoptera, Pseudoneuroptera and Neuroptera.

Chapter 12 is a note of two pages explaining a zoö-geographical map of North America, with remarks on the distribution of locusts.